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April 16, 2002

Mr. William F. Caton  
Acting Secretary  
Federal Communications Commission  
The Portals  
445 Twelfth Street, S.W.  
Washington, DC 20554

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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

Re: *Notice of Ex Parte Presentation:*  
IB Docket No. 01-185

Dear Mr. Caton:

On April 15, 2002, Alan Auckenthaler, General Counsel of Inmarsat Ventures plc, Jonas Eneberg, Inmarsat Ltd., and the undersigned, met with Donald Abelson, Rick Engelman, Tom Tycz, Breck Blalock, Trey Hanbury, and Paul Locke of the International Bureau. The topics of discussion were those described in the enclosed set of presentation materials and the Inmarsat positions of record in this proceeding.

An original and one copy are enclosed.

Respectfully submitted,

John P. Janka

Enclosure

cc (w/ encl.):  
Don Abelson  
Rick Engelman  
Tom Tycz  
Breck Blalock  
Trey Hanbury  
Paul Locke

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# **Presentation to The International Bureau**

**Inmarsat Ventures plc**

**IB Docket No. 01-185**

**April 15, 2002**

# Summary of Inmarsat System

- 9 GSO spacecraft in orbit using the L-band
- Over 220,000 earth terminals registered for use
- \$1.72 billion being invested in Inmarsat 4 system, launching in 2003
- System heavily used by
  - US Navy, Coast Guard and FAA
  - Commercial airlines, cargo ships and passenger ships
  - Humanitarian aid and media organizations
- New services being developed since October 2001 market access decision

# Consequences of Authorizing Terrestrial Use of L-Band

- Disrupt safety, maritime, aeronautical and land mobile communications provided by the Inmarsat system
  - Within and outside the US
- Interfere with all Inmarsat spacecraft that see part of the U.S.
  - In-orbit at: 15.5W, 54W, 98W, 142W, 178E, 179E
  - Planned at: 143.5E (and other locations)
- Eliminate spectrum for possible MSS use
  - MSV will need more L-band spectrum for terrestrial service than for stand-alone satellite service
  - Terrestrial use limits satellite re-use of L-band near the U.S.
- Constrain design of future satellite networks
  - Significantly reduce satellite coordination flexibility
  - Curtail use of future advances in MSS satellite technology

# Why L-Band Terrestrial Use Would Interfere With the Inmarsat System

- Terrestrial mobile terminals would produce many more signals generating interference into Inmarsat spacecraft
  - Greater numbers of terrestrial “cells” where co-channel re-use is possible
  - Many more terrestrial users generating interfering signals
- High-powered terrestrial base stations would overwhelm Inmarsat mobile terminals
  - Inmarsat terminals must be sensitive enough to receive signals from space
  - Inmarsat terminals are not designed to co-exist with high-powered nearby terrestrial transmitters
- No ITU spectrum allocation exists for these terrestrial uses in Region 2

# Why the L Band Is Different than 2 GHz or the Big LEO Band

- L-band is heavily used by non-U.S. satellite networks
  - Recognized shortage of L-band spectrum to serve these networks
  - Other MSS bands not heavily used
- All of the L-band is shared co-channel in different geographic areas
  - Co-channel terrestrial use in the US would interfere with MSS spacecraft operating elsewhere
- Dynamic spectrum reassignments
  - L-band frequencies are to be reassigned annually among MSS systems, based on projected demand for service on each system
- Terrestrial use violates the Mexico City MOU coordination arrangement
  - No basis for an MSS system or terrestrial provider to use any L-band spectrum for terrestrial service

# Coordination Under Mexico City MOU

- Because it will not coordinate under the Mexico City MOU, MSV continues to have access to more spectrum than it uses for MSS service
  - Mexico City MOU provides for MSV to release that spectrum to other MSS operators
  - Inmarsat needs more spectrum for satellite service
  - There is no basis for MSV to preserve unused L-band spectrum for terrestrial use
- UK's RA has sent a letter to the FCC addressing MSV's failure to coordinate under the Mexico City MOU
- Inmarsat stands ready to resume annual coordination

## Other Issues

- Not feasible for MSV to monitor and control Inmarsat interference at MSV spacecraft
- Dual-band handsets can solve MSV business problem
- Terrestrial use of Big LEO band also poses out-of-band emissions interference threat to Inmarsat
- Even greater problems with stand-alone terrestrial providers at L-band



# Conclusion

- Terrestrial use of L-band presents significant threat of interference into operating Inmarsat network
- L-band is unique because of heavy incumbent satellite use and Mexico City MOU
- Any authorization of terrestrial use at L-band would
  - disrupt service over the Inmarsat system
  - constrain use of the L-band by the primary MSS service
  - significantly reduce satellite coordination flexibility in the L-band
  - curtail use of future advances in MSS technology at L-band
  - violate U.S. international obligations